TITLE: Apparatus and Method for Hyperlinking Specific Words in Content to Turn the Words into Advertisements

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FIELD OF THE INVENTION

The present invention relates generally to advertising on a network. More specifically, the present invention is a system and method for enabling a party with content or dialogue text or HTML to hyperlink certain words or phrases to advertisers, in exchange for compensation for this advertising service, in real-time, as published, or on a periodically refreshed basis.

BACKGROUND INFORMATION

The hyperlink or hypertext link is what makes the World Wide Web a web. A hypertext, "link" is a selectable connection from one word, picture, or information object to another. The most common form of link is the highlighted word or picture that can be selected by the user (with a mouse or in some other fashion), resulting in the immediate delivery and view of another file. The highlighted object is referred to as an anchor. The anchor reference and the object referred to constitute a hyperlink or hypertext link.

For online advertising, the anchor reference is typically a picture that forms what is called a "banner ad." Content is typically displayed centrally on a web page and ads are displayed peripherally, such as at the top, bottom or side of a web page. As such, ads and content are physically separate. The online advertising industry is finding that, in many cases, it is very effective to integrate advertising closely with content, typically matching the banner ad fields with the content topic, such as advertising bicycles on a web page with content relating to

bicycling.

However, present online advertising is suffering from various drawbacks. Many consumers are using free, ad-supported Internet services that display a persistent banner ad window in a location of the service provider's choice, often obscuring, and therefore defeating, the advertising being delivered by the web site being viewed. Other consumers, who are annoyed by banner ads, are increasingly using browsers that incorporate banner-filtering software to prevent ad displays. Additionally, as more consumers access the World Wide Web using devices with smaller displays, such as laptop computers, Internet appliances, palm-size computers, and wireless phones, the graphical links of banner ads are becoming more problematic due to spatial constraints. The advertising spaces are often eliminated by special formatting, such as by palm-formatted pages and WAP-formatted pages.

What would be truly useful in a method for integrating advertising with the content being displayed to avoid conflicts between the ads and the available display area.

BRIEF SUMMARY OF THE INVENTION

The present invention is a system and method for integrating advertising with content more completely by hyperlinking certain keywords or phrases to another Web site (the "subsequent Web site"). The subsequent Web site is then charged for this service. For example, in an article discussing audio speakers, the word "subwoofer" in the middle of an article could be hyperlinked to a Web site that sells subwoofers, or provides more information about them. This hyperlink is sold to the Web site to which it is linked. In another embodiment, text displayed in any software application (not just browsers) is hyperlinked in the same manner.

To do this, the present invention comprises a system whereby words within content or

dialogue are altered such that they are hyperlinked to an advertiser Web site. The advertiser Web site is charged for the service of being linked to in some way.

It is therefore an object of the present invention to avoid the limitations of online banner advertising occupying too much display space by fully integrating advertising links with content.

It is another object of the present invention to allow advertising to be delivered to any browser or other software application that supports HTTP, regardless of display size.

It is a further object of the present invention to provide a system and method for inserting hyperlinks to advertiser sites into the content of web pages.

It is a further object of the present invention to provide a system and method for inserting hyperlinks to advertiser sites into the text of any software application that supports HTTP.

It is yet another object of the present invention to provide a business model to compensate content providers providing anchor references for hyperlink ads and collect fees from the linked web pages containing the referred object of hyperlink ads.

These and other objectives of the present invention will become apparent to those skilled in the art from a review of the specification herein.

BRIEF DESCRPTION OF THE DRAWINGS

Figure 1 illustrates a typical schematic for practicing on embodiment of the present invention.

Figure 2 illustrates a typical business model used by one embodiment the present invention.

Figure 3 illustrates a first embodiment of a process to practice the present invention. When the ad server downloads HTML files from the content provider.

Figure 4 illustrates another embodiment of a process to practice the present invention. Where the ad server provides a script to the content provider

Figure 5 and **figure 5A** illustrate yet another embodiment of a process to practice the present invention when the content provider places code in HTML documents.

Figure 6 illustrates an alternative embodiment of a process where web pages are served by the ad server to practice the present invention.

Figures 7A-B illustrate alternative embodiments of a process of the present invention where web pages are hyperlinked by software run on a user computer.

DETAILED DESCRIPTION OF THE INVENTION

The present invention in a method for taking content in text, HTML, or related format from Web pages (for browsers) or other sources (for other software applications that support HTTP) and searching it for words or phrases that advertisers have contracted to have hyperlinked to their Web pages. These words and phrases are then hyperlinked in HTML format to the advertiser's Web site, in a preferred embodiment involving routing through a tracking URL to track the number of times the hyperlink is clicked on. The content is then published on the Internet (for browsers) or displayed within an application (for other software applications that support HTTP) and readers seeing the content have the option of clicking on the hyperlink and visiting the contracted advertiser's Web site, as well as potentially holding their mouse or other pointing device over the hyperlink to see what site it leads to. The advertiser is then charged on a variety of different models including flat rate, flat rate by site, a rate for every time the hyperlinked word is viewed or called (an impression), every time the hyperlink is clicked on (clicks), or every time the hyperlink is clicked on and a sale, registration, or other action results

(conversions). The content producer, distributor, or even the end viewer of the content, is potentially compensated on any of the same metrics as well.

Although "content," as used in reference to the Internet generally includes text, images, sounds, and software code transmitted to users, as used herein, the term "content" is more narrowly defined and refers to textually-based information, education, and entertainment materials (produced by organizations and individuals) that has been authored independent of any advertiser. The textual labels of images, including the ALT="image label" of IMG tags, are also considered to be included in the definition of content, as used herein.

The term "HTML," as used herein refers to any hypertext-capable markup language, including, but not limited to, DHTML, XHTML, SGML, XML, HDML, and WML.

Additionally, although the invention will now be described with respect to content from Web pages being hyperlinked and viewed in a browser, the invention is equally and similarly capable of being practiced with text from other sources being hyperlinked and viewed in any software application that supports HTTP. For example, an HTTP-enabled word processing application could have a macro or other code that performs hyperlinking on appropriate words in any document opened by the application.

As illustrated in **fig. 1**, an end user browser **110** accesses Web page A over the Internet **100**. The content of the page, in text, HTML, or related format, has earlier been input **150** into the system of the present invention and searched for words or phrases that advertisers have contracted to have hyperlinked to them. These words and phrases are then hyperlinked in HTML format to the advertisers Web page B **120** by routing through a tracking URL to track **180** the number of times the hyperlink is clicked on. The ad server **130** then looks up and supplies the destination URL from a Destination URL database **170** needed to hyperlink the browser to the

correct advertiser Web page B **120**. To accomplish this, the content published on page A includes the HTML with the desired words hyperlinked to a tracking URL. The end users browsing the content then has the option of clicking on the hyperlink and visiting the contracted advertisers Web site, as well as potentially holding their mouse over the hyperlink to see what site it leads to.

This hyperlinking of text is particularly useful for wireless devices that do not have displays appropriate for typical advertising media, but which do support hyperlinking. As shown in **fig. 1**, an optional WAP gateway and WML server **185** can therefore be used to allow the invention to be practiced on wireless devices

The advertiser is charged on a variety of different models including flat rate, flat rate by site, a rate for every time the hyperlinked word is viewed or called (an impression), every time the hyperlink is clicked on, or every time the hyperlink is clicked on and a sale, registration, or other action results although these methods are not meant as limitations in charging mehtods. The content producer, distributor, or even the end viewer of the content, could be compensated on any of the same metrics as well.

The ad server records tracking information concerning which hyperlink ads have been served to which pages for each ad served and includes the desired metric data such as date-time, actions (impressions, click-throughs, sales, etc.), media, page-position, person id, etc. required for any fee collection from advertisers or any revenue disbursement to Web pages displaying the hyperlink ads. To aid in tracking unique actions, an optional cookie server can be employed as a proxy for those browsers that do not support cookies or have them turned off.

As mentioned above and illustrated in **fig. 2**, the tracking data **230** is then used by the ad server **200** to collect fees from advertisers **210** and distribute revenue to Web pages **220** on

which the ads have been served (or other compensated party, such as, but not limited to, users or content providers).

The invention can be practiced in a variety of ways. In a first embodiment, illustrated in **fig. 3**, the ad server downloads HTML files from the content provider **300**. The ad server then alters the HTML to include hyperlinked words in the content **310**. The ad server then uploads the altered HTML files over the existing HTML files on the content providers server **320**.

In a second embodiment, illustrated in **fig. 4**, the ad server provides a script to the content provider **400**. The content provider then runs the script on their servers **410**, and the script overwrites existing HTML files on the server with hyperlinked HTML files **420**.

Fig. 5 illustrates another possible embodiment of the present invention. In this embodiment, the content provider places DHTML coding in their HTML documents **500**. This DHTML coding then references the ad server in order to know which words to hyperlink **510**. The DHTML coding then automatically hyperlinks the given words as a user's browser interprets the HTML **520**.

Although described above with DHTML code, the present invention can also be practiced with a variety of other such coding, including, but not limited to, java, javascript, DHTL, or combinations thereof. The specific code is not a limitation, so long as it, by whatever means, will call the server and hyperlink certain words.

For example, in a typical embodiment of this version, the publisher ads a small tag to the bottom of each page on his web site, and we can then add the necessary hyper links to his page. The tag that the publisher would add to the bottom for the page would look something like this:

```
<SCRIPT LANGUAGE="JavaScript1.1"
src="http://ourserver.com/AdHyper.js?accountname"></SCRIPT>
```

This simply calls "ourserver" to find out which words to hyperlink where, and also passes through the publishers account name so we can keep track of how many impressions and clicks each publisher delivers.

The .js on "ourserver" would typically look something like this:

```
HyperLinker2000();

function HyperLinker2000() {
  var txtRange = document.body.createTextRange()
  var keyvalues = new Array(' strike ', ' investigation ', ' the ', ' men
');
  var keylinks = new Array('<a href =http://www.espn.com> strike </a> ' ,
'<a href =http://www.NBA.com> investigation</a> ' , '<a href
=http://www.washingtonpost.com the</a> ', '<a href
=http://www.washingtonpost.com> men</a> ');
      for ( var i = 0; i <= 500; i++) {
        var x = i;
        while(txtRange.findText(keyvalues[x])) {
        txtRange.pasteHTML(keylinks[x]);
        }
        var txtRange = document.body.createTextRange()
      }
}
```

The example above is displayed in **figure 5A** and is set to hyperlink the words "strike", "investigation", "the", and "men" to the corresponding URL. Notice the space before each word. This prevents from hyperlinking the piece of the word "men" from "Supermen", and only links the word men when it is preceded by a space.

Fig. 6 illustrates an alternative embodiment wherein the web pages are served by the ad server. In this system the content provider redirects users to the ad server's web page **600**. The ad server page delivers content with altered HTML that includes the hyperlinks **610**. The ad server does this using frames or coding in order to display the content providers URL in the browser display **620**. This function provides transparency to the user.

Figs. 7A-B illustrate embodiments wherein the computer of the end viewer of the content (i.e., user) runs software that provides the text hyperlinks in the viewed content. This can be done in a variety of ways.

One way to accomplish this is to have the user's browser download a piece of software that interacts with the browser to either change the HTML to create the hyperlink or create a "layer" over the HTML that enables the ad server to hyperlink certain words, as illustrated in **fig. 7A**. In this embodiment, the user is essentially accessing sites **710** through an ad server-supplied script **720**, which performs the transformation when run on the computer of user **730**. The viewed site **710** may or may not have knowledge of this. The action could be initiated by the user **730** (where the user chooses to come through the ad server, as shown by first arrow **740** to view pages or the ad server **750** provides some form of incentive) or initiated by the web site **710** (where the web site **710** chooses to route the user **730** through the ad server **750**, as shown by second arrow **760**).

In either situation, the user **730** is directed to a script **720** on the ad server **750** that analyzes and parses the requested page and changes the pages contents so they are displayed differently to the user **730** (the changes being hyperlinking certain words). A similar technology, used for entertainment, can be found at http://www.psyclops.com/translator/. Java, JavaScript, and Java applets could be used to perform either the method whereby the HTML is replaced as it is "read" by the end user with new HTML which contains the hyperlinks, or such that DHTML or language which uses a similar technology is inserted using Java, JavaScript, or a Java applet to create a "layer" that lays over the existing html and causes certain words to be hyperlinked.

Another way to have software perform the hyperlinking at the user's computer is to integrate the appropriate code that performs the hyperlinking of a page **770** into the browser software **772** displaying the text, as illustrated in **fig. 7B**, to present an ad-hyperlinked page **774**. In the illustration, "computer", "subwoofer", and "music" have been hyperlinked to advertiser-selected sites. To accomplish this type of hyperlinking, the ad server could partner with ICQ or

Netscape and build into their software applications a component that performs the text hyperlinking. This could also be done by browser plug-ins.

Although all of the embodiments above have discussed hyperlinking to advertiser-selected sites, it is also possible that many advertisers will want to link to the same words. So, instead of linking directly to an advertisers web site, the ad server could instead link the word or phrase to a list of advertisers related to (or who have selected) the word or phrase in a new HTML page or new document, or via a DHTML layer containing this list (the DHTML version could be by click, or by simply moving a selector (i.e., a "mouseover") showing the list when the user holds their mouse or pointing device over the hyperlink). This new list could open as a new HTML page in the original browser window, or in a new browser window, typically somewhat similar then the original. This list could take the format of what are typically described as search engine listings, the advertisers typically being charged for appearing in these listings, either CPM, CPC, or CPA or combination thereof, and possibly ranked in order of payment (so the advertiser paying the most would get listed highest on the list).

The ad serving system typically can include load balancers, such as Cisco/Arrowpoint CS 800's performing layer 7 polling with HTTP "get" calls every 1-3 seconds, to evenly distribute the requests to the ad servers. The ad servers will typically consist of 32-36 Pentium III processors running at 600-800 MHz, each having 1-2 GB of RAM and 36GB hard drives. Server software can be C++ compiled and running on FreeBSD, being held together with Chron, Perl, and Perlscripts, and could also be ported to Linux, A/UX, Windows NT, and Sun Solaris.

Typical cookie server hardware can include multi-processor systems with raid arrays and 4GB of RAM, running on Linux or FreeBSD and communicating with the ad server via TCP.

The database hardware can typically include a pair of Sun 4500 processors and an EMC

raid array with MySQL database management software. Destination URLs can be served from the destination (ad) database via NFS mount to the ad server.